

1509 Main Street, Suite 900  
Dallas, Texas  
75201-4809

214/744-1641



## ICF TECHNOLOGY INCORPORATED

### MEMORANDUM

9831271



TO: David Wineman, Region VI, RPO

THRU: K.H. Malone Jr., FITOM *KHM*

THRU: Tim Hall, ICF-AFITOM *Tim Hall* *HS*

FROM: Ravinder Joseph, and Heather Schijf, ICF-FIT

DATE: ~~October~~ 24, 1988

SUBJECT: Resampling of municipal drinking water wells located  
near the Air Center Inc. site, in Oklahoma City, OK  
TDD # F-6-8808-36,  
CERCLIS # OKD980750319,  
PAN # FOK0270SCF.

The Air Center Inc. site is an inactive, abandoned aircraft renovation and paint stripping facility, that ceased operations in March of 1984. Waste generated from the stripping process was allowed to discharge into an unlined lagoon that drained into a drainage ditch, which in turn flowed into a residential pond. Also present on site are two underground storage tanks which were used to hold stripped paint sludge. At closure the unlined lagoon was filled in and the underground storage tanks pumped dry. Currently, the site is leased by Commander Aircraft, a subsidiary of the Gulfstream Aerospace Corporation. The buildings are utilized as paint hangers by Commander Aircraft. According to Wiley Post authorities, Commander Aircraft has been asked not to use any "corrosive" paints and to discharge wastewater only to the sanitary sewers of Oklahoma City. This is to be done only after obtaining a permit from the city.

Past sediment sampling by the Oklahoma Water Resources Board and by the Oklahoma Department of Health indicated elevated levels (above background) of cyanide, lead, chromium, phenol and zinc. Furthermore, sampling by the EPA-FIT in January of 1988 indicated the presence of phenol, and cyanide, in both on-site and off-site soil and water samples, and elevated levels of lead in the City of Bethany drinking water wells. The results indicated 176 ppb of lead in well #21 and 66 ppb of lead in well # 23.

On August 22, 1988, FIT team members, Ravinder Joseph (team leader), and Tom Rountree (site safety officer) resampled City of Bethany municipal drinking water wells # 21 and # 23. Well # 21 is located approximately 1.4 miles southwest of the site, and well # 23 is located approximately 3000 feet west of the site. A copy of

the USGS topographic map and sample location map are attached. The August, 1988 samples were analyzed for lead only. This resampling was due to the detection of lead in samples collected in January of 1988. Both samples were collected from taps or openings directly on the well head (see photographs # 4 and # 5). Table 1 indicates field measurements, collection times, and amount of lead detected in samples. Sample 4 is a trip blank using deionized water. Samples 1 and 4 were collected directly into the sample bottles. Samples 2 and 3 were collected in a glass beaker, and then poured into the sample bottles. All four samples were shipped to the EPA Houston lab on August 22, 1988, via Federal Express. Attached are copies of the chain of custody and receipt for samples.

Table 1

| Sample # | Well #            | Collection Time | Field Measurements |           |       | Lead in ppb |
|----------|-------------------|-----------------|--------------------|-----------|-------|-------------|
|          |                   |                 | pH                 | Cond.     | Temp. |             |
| 1        | 21                | 1250 - 1255 hrs | 7.57               | 465 umhos | 26°C  | 7.6         |
| 2        | 23                | 1345 - 1350 hrs | 6.3                | 250 umhos | 25°C  | < 5         |
| 3        | 24<br>(dup of 23) | 1350 - 1355 hrs | 6.3                | 250 umhos | 25°C  | < 5         |
| 4        | Trip Blank        | 1220 - 1225 hrs | -                  | -         | -     | < 5         |

Analysis of the August 1988 samples indicates the presence of low levels of lead in well # 21. Lead was not detected in well # 23. The levels detected in well # 21 are well below the current Primary Drinking Water Standard of 50 ppb, and would still fall below the proposed standard of 20 ppb (see Attachment A for complete sample results). Although lead has been detected in on-site samples in the past, lead was not present in on-site samples collected by the FIT in January of 1988.

In response to TDD # F-6-8808-35, during the August 22, 1988 trip, FIT collected information in an attempt to determine additional potential contributors of lead contamination. Information was collected through drive bys of local industry and through the contacting of a state official. The attached map, titled Neighboring Industries, indicates their location and proximity to Air Center. FIT conducted off-site reconnaissance inspections of Gulfstream Aerospace Inc, the Wiley Post Airport, and Starlight Recoveries, all located nearby the Air Center site. FIT did not observe any noticeable problems from off-site which could contribute to surface migration of contaminants. Off-site photographs of the Wiley Post tank battery and Gulfstream are attached. Additional information regarding the operations of Starlight Recoveries was not obtained.

While observing from offsite, FIT saw what appeared to be a underground storage tank battery used for the storage of jet fuel. Information obtained from the Wiley Post authorities confirmed the presence of underground storage tanks. The Wiley Post Airport has a total of 17 underground storage tanks on-site for storing jet fuel. The total combined capacities of these tanks is estimated to be 228,000 gallons. The tanks are between 2-28 years old. It is not known whether any of these tanks have been leak tested. The potential exists for Wiley Post Airport to contribute to the lead contamination of groundwater as lead is a constituent of jet fuel.

FIT also contacted Tom Black with the Oklahoma Water Resources Board to obtain the following additional information on Gulfstream Aerospace Corporation (see Attachment B for file information obtained from Mr. Black). Gulfstream is a manufacturer of aircraft parts and is located at 5001 North Rockwell, Bethany, OK 73008. It is a generator of chromic acid, jet fuel and dried paint waste containing zinc chromate and solvents. Lead contaminated foundry sand was found dumped on-site during sampling by OSDH in May 1986. Spills of chromic acid and hydrofluoric acid were also reported in May 1986. Sampling by OSDH in May 1986, detected lead concentrations as high as 4850 ppm and chromium as high as 1281 ppm in soil samples. In addition, there are seven underground storage tanks at Gulfstream containing unleaded gas, diesel, and jet fuel. The tanks have a combined total capacity of 48,000 gallons. The tanks are between 15-26 years old. It is not known if any of these tanks have been leak tested, as it was only recently that the Oklahoma Corporation Commissions UST Department required test results to be submitted as part of the reporting requirement for underground storage tanks. The potential exists for Gulfstream to contribute to the lead and chromium contamination.

While it is unclear if Air Center is contributing to groundwater contamination, past sampling has indicated that Air Center has contributed to surface water contamination. It is recommended that the surface water route be further investigated. Furthermore, it is recommended that Gulfstream Aerospace, the Wiley Post Airport and Starlight Recoveries be investigated as possible sources of lead contamination to groundwater. Sampling of all 27 City of Bethany wells would assist in defining the plume and source of contamination accurately.

**Attachment A**

## SPECIAL ANALYSIS SUMMARY

SITE NAME AND NUMBER: AIR CENTER

CASE NUMBER: 8TFAFB29 PAGE 1 OF 1

CONCENTRATIONS IN PARTS PER BILLION

## TRAFFIC REPORT NUMBER AND STATION LOCATION.

[illegible]

R - DATA IS UNUSABLE DUE TO QA/QC OUT OF CONTROL LIMITS.

J - REPORTED CONCENTRATIONS OR DETECTION LIMITS ARE ESTIMATES DUE TO QA/QC OUT OF CONTROL.

B - CONCENTRATION IN SAMPLE ATTRIBUTABLE TO BLANK CONTAMINATION.

U - NOT DETECTED; VALUE REPORTED IS THE DETECTION LIMIT.

## CHAIN OF CUSTODY RECORD

|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
|--|------------------------|---|-------|--------------------------------------|-----------------------------|----------------------------------|---|--------------------------|--|--|--|----------------------------------|--------------|
| PROJ. NO.<br>OKD 9807503                   |                        | PROJECT NAME<br>Air Center<br>Oklahoma City |       | NO.<br><br>OF<br><br>CON-<br>TAINERS |                             | METAL (LEAD ONLY)                |   |                          |  |  |  | REMARKS                          |              |
| SAMPLERS: (Signature) Tom Rounts           |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
| STA. NO.                                   | DATE                   | TIME  | COMP. | GRAB                                 | STATION LOCATION            |                                  |   |                          |  |  |  | TAG #                            | BOTTLE LOT # |
| 01   | 8/22/88                | 1258-1255                                   |       | X                                    | Bethany municipal well # 21 | 3                                | 3 |                          |  |  |  | 6-034524<br>6-034525<br>6-034526 | 10238739     |
| 02   | 8/24/88                | 1345-1350                                   |       | X                                    | Bethany municipal well # 23 | 1                                | 1 |                          |  |  |  | 6-034527                         | 10238739     |
| 03   | 8/24/88                | 1350-1355                                   |       | X                                    | Bethany municipal well # 24 | 1                                | 1 |                          |  |  |  | 6-034528                         | 10238739     |
| 04   | 8/24/88                | 1220-1222                                   |       | X                                    | Trip Blank                  | 1                                | 1 |                          |  |  |  | 6-034529                         | 10238739     |
|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
|  |                        |   |       |                                      |                             |                                  |   |                          |  |  |  |                                  |              |
| Relinquished by: (Signature)<br>Tom Rounts | Date / Time<br>8/22/88 | Received by: (Signature)<br>FEDERAL EXPRESS |       | Relinquished by: (Signature)         |                             | Date / Time                      |   | Received by: (Signature) |  |  |  |                                  |              |
| Relinquished by: (Signature)               | Date / Time            | Received by: (Signature)                    |       | Relinquished by: (Signature)         |                             | Date / Time                      |   | Received by: (Signature) |  |  |  |                                  |              |
| Relinquished by: (Signature)               | Date / Time            | Received for Laboratory by: (Signature)     |       | Date / Time                          |                             | Remarks<br>Air bill # 9217837624 |   |                          |  |  |  |                                  |              |

6-02898



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VI

1445 ROSS AVENUE, SUITE 1200

DALLAS, TEXAS 75202

8-22-88  
(DATE)RECEIPT FOR SAMPLES

NAME AND TITLE OF E.P.A. REPRESENTATIVE:

Ravinder JosephICF Technology, Dallas, TX 75201Ravinder Joseph

(Signature)

SAMPLES COLLECTED:

| SAMPLE<br>NUMBER | TIME                        | PLACE<br>COLLECTED                      | TYPE                                  | VOLUME          | SPLIT SAMPLE  |                   |
|------------------|-----------------------------|---|---------------------------------------|-----------------|---------------|-------------------|
|                  |                             |   |                                       |                 | REQUESTED     | PROVIDED          |
| <u>01</u>        | <u>1250</u><br><u>-1255</u> | <u>Bethany</u><br><u>well #21</u>       | <u>Municipal</u><br><u>water well</u> | <u>3 litres</u> | <u>NO</u>     | <u>          </u> |
| <u>02</u>        | <u>1345</u><br><u>-1350</u> | <u>Bethany</u><br><u>well #23</u>       | <u>Municipal</u><br><u>water well</u> | <u>1 litre</u>  | <u>NO</u>     | <u>          </u> |
| <u>03</u>        | <u>1350</u><br><u>-1355</u> | <u>Bethany</u><br><u>well #23 (dup)</u> | <u>Municipal</u><br><u>water well</u> | <u>1 litre</u>  | <u>NO</u>     | <u>          </u> |
| <u>      </u>    | <u>      </u>               | <u>      </u>                           | <u>      </u>                         | <u>      </u>   | <u>      </u> | <u>      </u>     |
| <u>      </u>    | <u>      </u>               | <u>      </u>                           | <u>      </u>                         | <u>      </u>   | <u>      </u> | <u>      </u>     |
| <u>      </u>    | <u>      </u>               | <u>      </u>                           | <u>      </u>                         | <u>      </u>   | <u>      </u> | <u>      </u>     |
| <u>      </u>    | <u>      </u>               | <u>      </u>                           | <u>      </u>                         | <u>      </u>   | <u>      </u> | <u>      </u>     |
| <u>      </u>    | <u>      </u>               | <u>      </u>                           | <u>      </u>                         | <u>      </u>   | <u>      </u> | <u>      </u>     |
| <u>      </u>    | <u>      </u>               | <u>      </u>                           | <u>      </u>                         | <u>      </u>   | <u>      </u> | <u>      </u>     |
| <u>      </u>    | <u>      </u>               | <u>      </u>                           | <u>      </u>                         | <u>      </u>   | <u>      </u> | <u>      </u>     |

ACKNOWLEDGMENT OF FACILITY REPRESENTATIVE

The undersigned acknowledges that the samples described above have been collected.

NAME, TITLE AND ADDRESS OF FACILITY REPRESENTATIVE:

Craig Davis - Maint./Relief OperatorCity of BethanyCraig A. Davis  
(Signature)8/22/88  
(Date)DISTRIBUTION:One copy facility representative  
One copy for inspector's records  
Original to Regional Office

-1322  
1320  
-1320  
1322  
-1522  
1520

**Attachment B**

Joan K. Leavitt, M.D.  
Commissioner

**Board of Health**

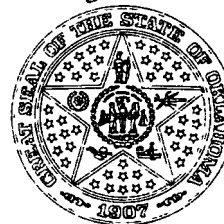
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President  
Linda M. Johnson, M.D.  
Vice President  
Robert D. McCullough, II D.O.  
Secretary/Treasurer

Wallace Byrd, M.D.  
John B. Carmichael D.D.S.  
Ernest D. Martin  
Walter Scott Mason, III  
Edwin L. Pointer M.D.  
W. A. "Tate" Taylor

**OKLAHOMA STATE  
DEPARTMENT OF HEALTH**

P.O. BOX 53551  
1000 N.E. TENTH  
OKLAHOMA CITY, OK 73152

AN EQUAL OPPORTUNITY EMPLOYER

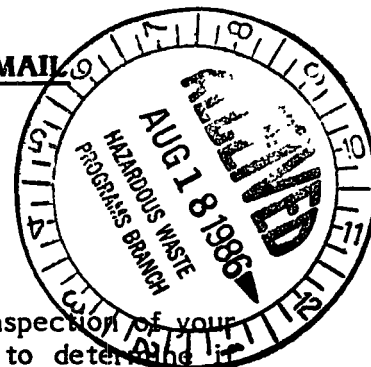


August 12, 1986

Barbara Marrs  
Gulfstream Aerospace Corporation  
5001 North Rockwell  
Bethany, OK 73008

Dear Ms. Marrs:

**CERTIFIED MAIL**



This is a **WARNING LETTER** promulgated as a result of an inspection of your facility on July 11, 1986. The purpose of the inspection was to determine if Gulfstream Aerospace Corporation was in compliance with the Oklahoma Rules and Regulations for Industrial Waste Management. The following areas of non-compliance were noted:

1. Gulfstream has failed to ship waste off-site within the ninety (90) day storage time limitation. Rule 3.18 (See 40 CFR 262.34) states that on-site storage by the generator for periods in excess of ninety (90) days shall not be allowed unless the generator meets the requirements of 40 CFR part 264 or 265, as applicable, as they have been incorporated by reference, and State permit requirements meeting the Standards of Chapter 8 of the Rules and 40 CFR Part 270.

A generator who accumulates waste for more than ninety (90) days becomes an operator of a storage facility. Gulfstream has violated the rules for storage facilities, which include but are not limited to requirements for notification, permitting, and financial assurance, as well as the maintenance of a waste analysis plan, contingency plan, closure plan, inspection schedule and associated logs, personnel training records, and the posting of proper warning signs.

2. Gulfstream has failed to mark all of the storage containers and the storage tank, as required by Rule 3.16 (See 40 CFR 262.32(b) and 40 CFR 262.34(a)(2)). The hazardous waste label and start of accumulation date appeared only on a few of the containers to be shipped. It must be marked on all containers and the tank.
3. Gulfstream has failed to inspect the tank and storage containers, as required by Rules 7.8 and 7.9 (See 40 CFR 265.194 and 40 CFR 265.174). The containers and tank must be inspected at least weekly for signs of leakage or corrosion. In Gulfstream's contingency plan is a copy of a containers inspection log; however, this form has not been used. Neither the containers nor tank are inspected. No log exists for inspecting the tank or other plant safety and security devices.
4. Gulfstream has failed to include the tank closure in the facility closure plan, as required by Rule 7.9 (See 40 CFR 265.112). The closure plan must include steps to close the facility, estimate of maximum inventory of wastes at the facility, list steps needed to decontaminate equipment, and expected year of closure with a schedule of closure. The closure plan must be revised to also include any changes in facility design or operation. Additionally, 40 CFR 265.142 requires

*Mailed  
8/13/86  
SE*

Ms. Marrs  
Gulfstream Aerospace Corp.  
August 12, 1986  
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that the cost estimate for closure be adjusted annually. Gulfstream's closure cost figures need to include the tank closure and increased cost/inflation, since the plan was written in 1982.

5. Gulfstream has failed to meet the personnel training and recordkeeping requirements of Rule 7.1.6 (See CFR 265.16). 40 CFR 265.16 requires that:
  1. facility personnel complete a training program,
  2. the program be directed by a person trained in hazardous waste management procedures,
  3. the program be designed to ensure that personnel are able to effectively respond to emergencies,
  4. personnel be trained within six (6) months of employment and this training reviewed annually,
  5. training records be maintained at the facility.

The training records must contain:

- a) job title for each position related to controlled industrial waste and the name of each employee filling a position,
  - b) written job description for each job title, including the requisite skill, education or other equivalent education, and duties of personnel assigned to each position,
  - c) description of type and amount of both introductory and continuing training that will be given to each person filling a position, and
  - d) records that document that the required training has been given to or completed by facility personnel.
6. Gulfstream has failed to provide local authorities with copies of the contingency plan, as required by Rule 7.1.6 (See 40 CFR 265.53). The copies have not been sent and no documentation is provided to demonstrate receipt by local emergency response agencies.
  7. Gulfstream has not included in its contingency plan the required emergency coordinator information under Rule 7.1.6 (See 40 CFR 265.52(d)). A list of names, addresses and phone numbers (office and home) of all persons qualified to act as emergency coordinator must be included in the contingency plan, and the person acting as primary coordinator must be identified.

Ms. Marrs  
Gulfstream Aerospace Corp.  
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8. Gulfstream must amend its contingency plan in order to comply with Rule 7.1.6 (See 40 CFR 265.52 and 40 CFR 265.56). In amending the plan the following areas need improvement:
  - a. Emergencies involving the storage tank must be addressed.
  - b. More detail is needed regarding the list of emergency equipment, which must include the location of of each item and its capabilities.
  - c. Evacuation routes and alternate routes need to be addressed.
  - d. The map of the facility contains extraneous information and does not depict the currently used waste storage areas.
  - e. Page 3 of the text says the storage area is for waste kept in excess of 90 days. This should read not in excess of 90 days.
  - f. Appendix I of the plan does not state that the Director of the Oklahoma State Department of Health, Industrial Waste Division will receive the outlined incident report.
  - g. Appendix G states that amendments to the contingency plan will be made six (6) months after review. The regulations require that these amendments be made immediately.
9. Gulfstream has contaminated the environment as the result of an accidental acid spill onto the ground. In addition to the spill the improper handling of lead contaminated foundry sand has prompted the need for an environmental clean-up plan under the provisions of Chapter 6 of the Rules and Regulations. Lead and chromium contaminated soil must be managed and disposed of as controlled industrial waste. The test results of samples taken after the spill are included in the attached inspection report.

The above-mentioned items are serious violations of the Oklahoma Controlled Industrial Waste Disposal Act and the Rules and Regulations promulgated pursuant to the Act. Please take all necessary actions to correct these violations within thirty (30) days of receipt of this letter. You must notify us of your intentions with regards to item number one above. If you wish to operate as a storage facility, all of the referenced requirements of Rule 3.18 must be met.

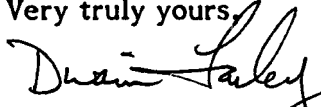
Immediately commence proper labeling and dating of your containers and storage tank. Perform required inspections and amend the facility closure plan. Implement a personnel training program and appoint an emergency coordinator. Amend the contingency plan and provide copies to local authorities. Establish-in writing-procedures implemented to clean up contaminated soil. Laboratory analyses show the soil to be EP toxic for lead and chromium; as such, this soil is to be disposed of as controlled industrial waste.

Ms. Marrs  
Gulfstream Aerospace Corp.  
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Failure to comply with the directives of this warning letter may subject Gulfstream Aerospace Corporation to further enforcement action, which may include an administrative order assessing penalties.

If you have any questions or require further information regarding this matter, please contact Lynne Doty or Mr. Ken E. Raymond of my staff at (405) 271-5338.

Very truly yours,



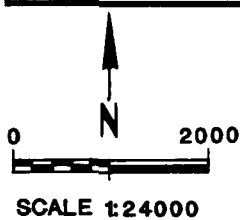
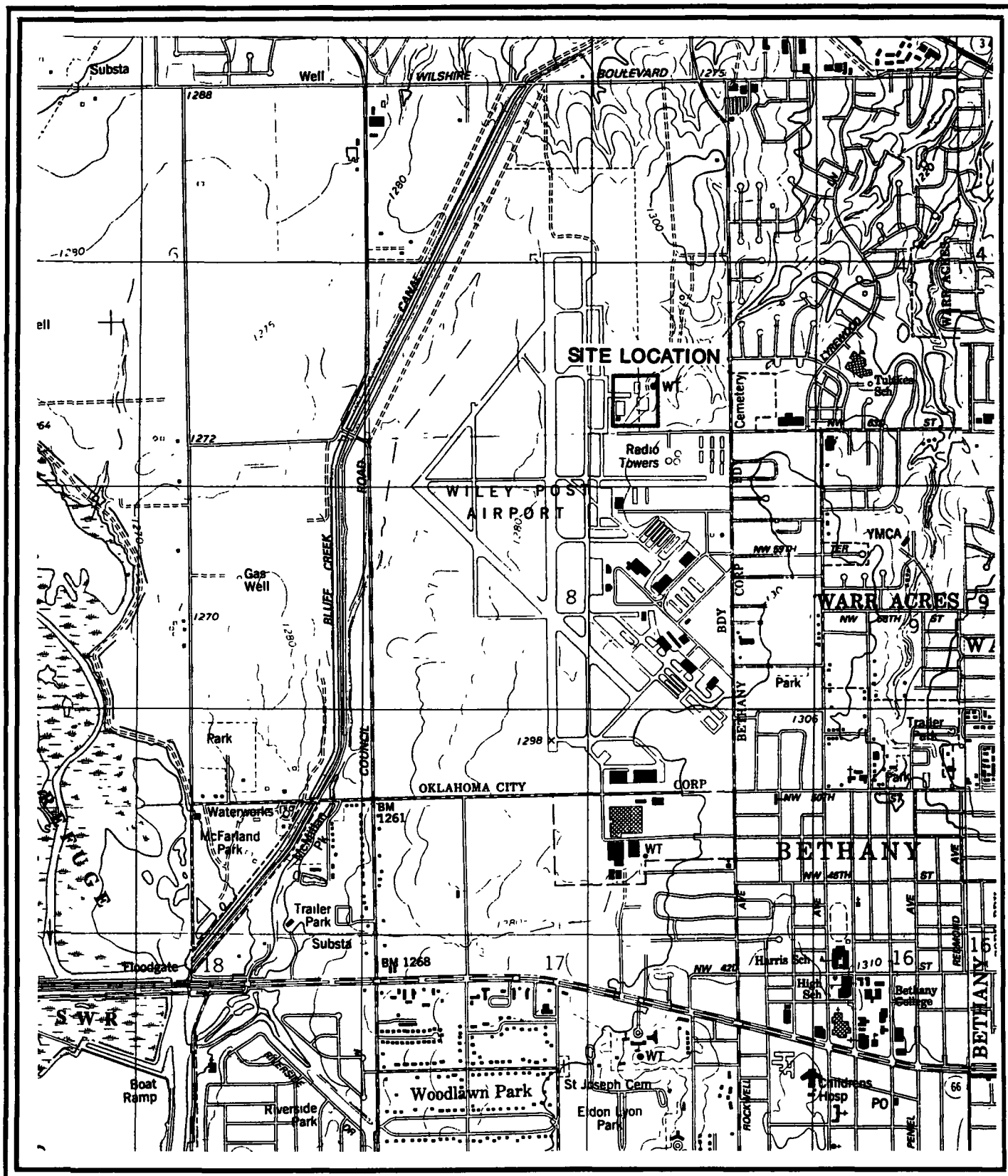
For

Donald A. Hensch, P.E., Director  
Industrial Waste Division

DAH/KER/LD/sc  
LDI

Enclosure: Checklist

cc: Buddy Parr (6H-HP)  
U.S. EPA  
Region VI

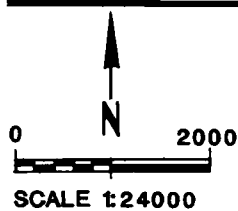
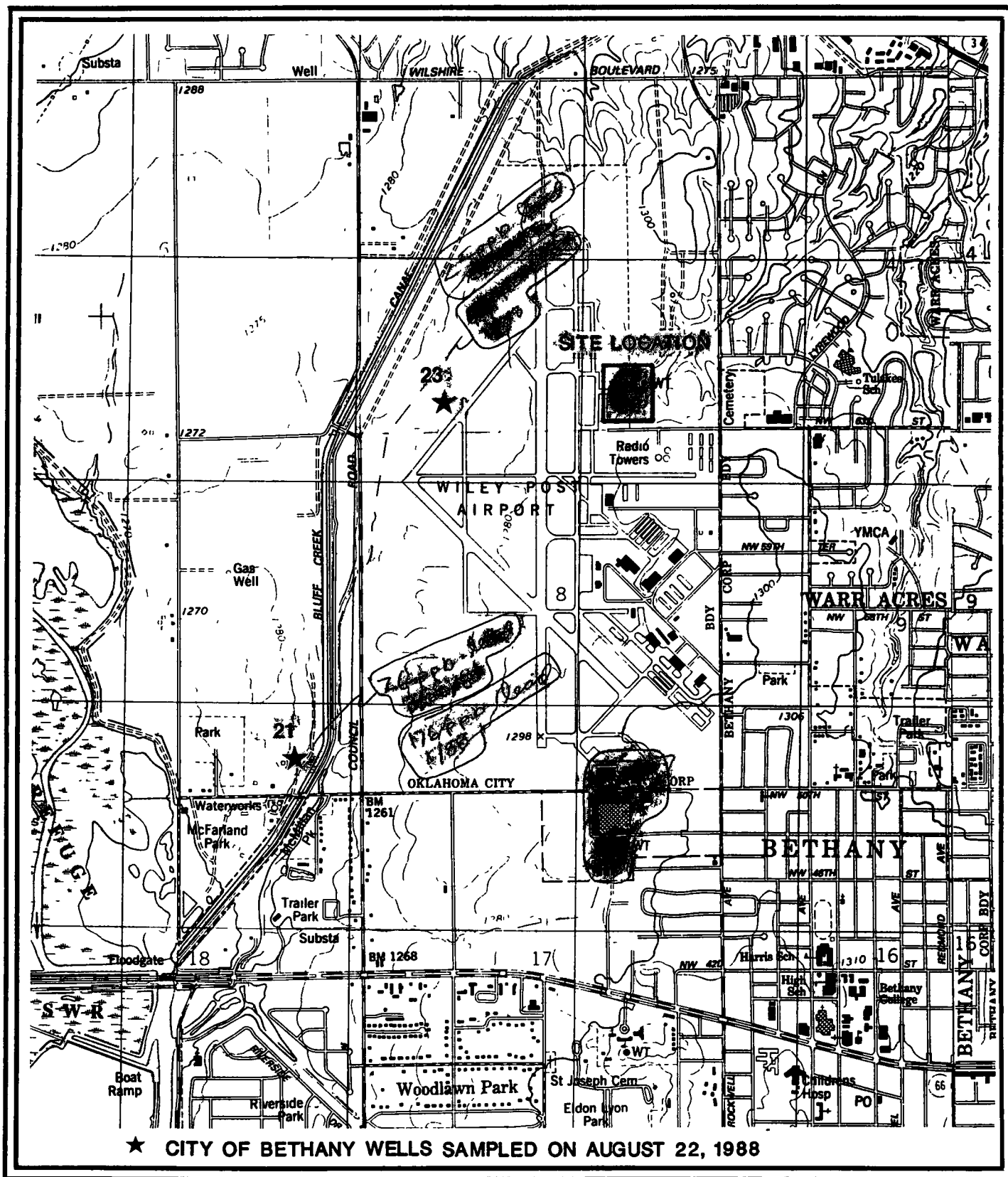


Site Location Map  
**AIR CENTER INC.**  
**OKLAHOMA CITY, OK**  
 TDD NO. F-6-8808-36  
 CERCLIS NO. OKD980750319

OKLAHOMA

QUADRANGLE LOCATION

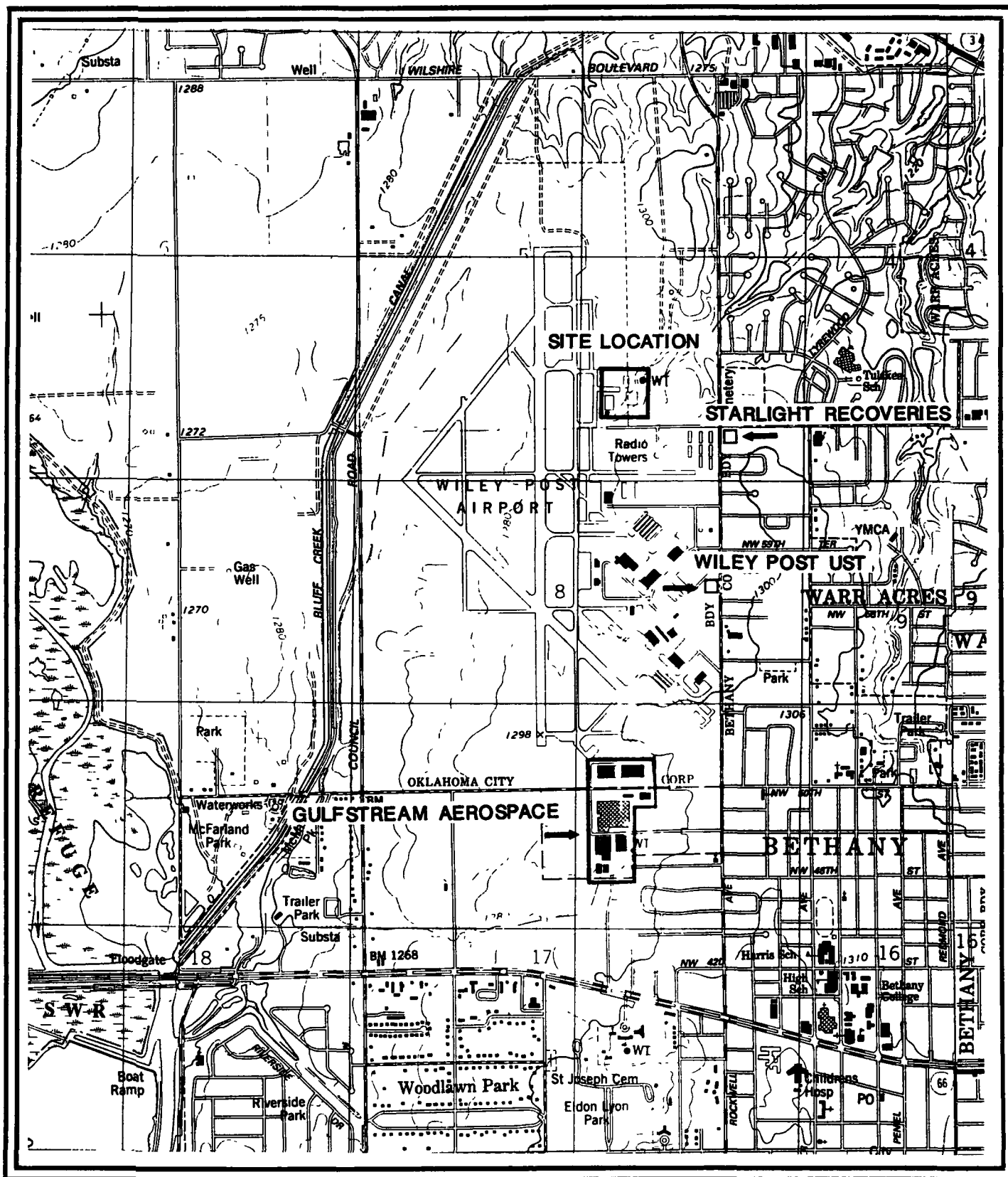
BETHANY, OK BRITTON, OK



Sample Location Map  
**AIR CENTER INC.**  
 OKLAHOMA CITY, OK  
 TDD NO. F-6-8808-36  
 CERCLIS NO. OKD980750319



BETHANY, OK BRITTON, OK



Neighboring Industries to Air Center, Inc.

**AIR CENTER INC.**

**OKLAHOMA CITY, OK**

**TDD NO. F-6-8808-36**

**CERCLIS NO. OKD980750319**



QUADRANGLE LOCATION

**BETHANY, OK BRITTON, OK**

